grandifolia) treeholes. *Orthopodomyia alba* larvae have been collected from early May through mid-September (7,14,28 May, 19 June, 16 July, 30 July, 11 August, 11 September, 1976), while *O. signifera* have been collected only from mid-July into mid-September (16,30 July, 11 August, 11 September, 1976). Collections were made over a similar time period in 1975 also.

A distinct difference in water conditions has been noticed for the larval habitat of each species. *Orthopodomyia alba* has been collected only from beech treeholes in which very dark coffee-colored water rich in organic matter occurs, while *O. signifera* has been collected only from beech treeholes in which the water is considerably clearer and darkened only by suspended dirt particles. Other species associated with *O. alba* in collections were *Aedes bendersoni*, and *Anopheles barberi; Aedes triseriatus* and *Anopheles barberi* were found in association with *O. signifera.* The significance of this differential larval habitat and species association in beech treeholes is under investigation.

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A SPECIAL STUDY TO SHOW LARVAL DENSITIES IN RELATION TO WATER DEPTH

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We studied species and species densities in relation to water depth to show our *Aedes* problem to our staff. We firmly believe that most of our mosquito problem is produced in areas that are dry much of the time and wet some of the time. Thus, the thought was that we would find the heaviest densities of *Aedes* in fairly shallow water.

In the 15 sites studied 14 had heaviest densities in the 1 to 6 in. depths. In the 13 in. depth or deeper, densities were very light or nil. Even in shallow sites breeding larvae of other genera the heaviest larval densities were in 1 to 6 in. of water.

We realize the chance of "spooking" immatures when wading in deep water is good. We tried to minimize this effect in this study. We concluded that the greatest numbers of any species were in 1 to 6 in. of water. These 15 sites were studied between May 27 and June 8. Species found were: *Culiseta inornata* and *Ae. vexans* which were predominant, some *Cx. territans, restuans, tarsalis* as well as some *Ae. sticticus* and *Ae. canadensis.* If this study had been done earlier in the year our univoltine *Aedes* might have shown us a different picture.

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AN *IN VITRO* FEEDING TECHNIQUE FOR ARTIFICIALLY DEMONSTRATING VIRUS TRANSMISSION BY MOSQUITOES[1]

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Certain viruses that are possibly transmitted by insects do not lend themselves readily to experimental insect transmission studies for lack of suitable laboratory recipient hosts. The available animal hosts do not produce apparent infections following injection of virus by a peripheral route (such as provided by a feeding mosquito). They may not produce viremia or even antibodies after various methods of virus exposure. Moreover it is not always possible to achieve a favorable feeding response even when a satisfactory host animal is available. Therefore several *in vitro* techniques were explored to overcome this difficulty. One method, utilizing *Aedes aegypti*, which proved successful is described here.

Glass capillary tubing (7 cm long and ± 1 mm outer diameter) is drawn to a fine point in a tiny flame. The capillary orifice should be capable of easily receiving the mosquito's proboscis. Feeding of unconfined mosquitoes is accomplished by inserting the *entire* proboscis into the finely-drawn capillary containing 0.005 ml of heat-inactivated defibrinated chicken blood and per-

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